

epi TRENDS

A Monthly Bulletin on Epidemiology and Public Health Practice in Washington

***E. coli* O157:H7 Outbreaks from Produce**

Escherichia coli (*E. coli*) O157:H7 are found in cattle herds and other ruminant animals such as deer. Infections with the bacteria are frequently thought of as connected with beef, particularly ground beef. Outbreaks have also been associated with other foods including unpasteurized (raw) milk, unpasteurized dairy products, and produce. Two outbreaks of *E. coli* were recently reported, one involving spinach and the other involving raw milk.

Spinach Associated Outbreak

Investigation by Wisconsin and Oregon health departments first identified the possible association between a cluster of *E. coli* O157:H7 infections and spinach. The subsequent multi-state investigation identified a nationwide outbreak associated with raw spinach consumption including three cases who were Washington residents.

As of October 18th, 204 cases from 26 states had been reported to the Centers for Disease Control and Prevention (CDC). The majority of cases occurred between August 19 and September 5. Three of the case patients with confirmed infection died and others had severe complications including hemolytic uremic syndrome. Isolates from the patients have indistinguishable pulsed-field gel electrophoresis (PFGE) patterns, suggesting a common source for the exposure. *E. coli* O157:H7 was isolated from 13 packages of spinach obtained from 10 states. These isolates shared the outbreak pattern.

Contamination of Produce

Outbreaks of *E. coli* O157:H7 and related *E. coli* strains have been associated with a number of different types of produce. In some situations, the fruits or vegetables themselves were contaminated before preparation in the kitchen. Produce associated with such outbreaks include lettuce, spinach, unpasteurized apple cider or apple juice, unpasteurized orange juice, coleslaw, alfalfa sprouts, and clover sprouts. In other cases, cross-contamination occurred during preparation of the produce when raw beef was also being handled in the kitchen.

Vol. 11 No. 10

60.1



*epi*TRENDS
P.O. Box 47812
Olympia, WA 98504-7812
Mary C. Selecky
Secretary
Maxine Hayes, MD, MPH
State Health Officer
Jo Hofmann, MD
State Epidemiologist for
Communicable Diseases
Deborah Todd, RN, MPH
Managing Editor
Marcia J. Goldoft, MD, MPH
Scientific Editor

Continued page 2

Bacterial contamination of field-grown produce can occur at any point from seed to final packaging. Potential sources of contamination in the field include irrigation water, flood water, soil amendments (such as manure fertilizer), workers, and wildlife. During processing there can be contamination of equipment, wash water, workers, dust, or ice. Juice contamination has been associated with manure fertilization in orchards, use of apples collected from the ground, contaminated wash water, and the presence of cattle near a cider mill.

Raw Milk Associated Outbreak

In late September, two cases of *E. coli* O157:H7 infection were associated with commercial unpasteurized milk sold through health food stores. The Washington State Department of Agriculture (WSDA) conducted an investigation into the dairy and its operations. This is the second raw milk-associated outbreak to occur in Washington in the past nine months. Although raw milk producers can be licensed in this state, the product must be labeled “raw milk” and a warning sign must be posted near the product. Nationally, outbreaks of *E. coli* O157:H7 and similar bacteria have been associated with consumption of raw milk and raw products including semi-soft cheese and cheese curds.

Preventing *E. coli* O157:H7 Infections

E. coli O157:H7 outbreaks have been associated with animal products, unpasteurized dairy products, and direct contact with animals such as at petting zoos as well as with produce items, particularly field grown crops.

CDC offers the following recommendations to avoid infections with *E. coli* O157:H7 and similar bacteria:

- Cook all meat and poultry thoroughly.
 - In the shopping cart or kitchen separate raw meat or poultry from other foods and thoroughly clean hands, surfaces, and utensils when preparing raw meat or poultry.
 - Choose only pasteurized milk, juice, cider, and dairy products.
 - Wash fruits and vegetables thoroughly under running water, especially those that will not be cooked.
 - Use safe drinking water and avoid swallowing river, lake or pool water.
- E. coli* O157:H7 can be spread from a person with diarrhea to another person. Wash hands thoroughly with soap and water after using the toilet or changing diapers, and before handling food.

Further information about the spinach-associated outbreak is available at:

<http://www.cdc.gov/foodborne/ecolispinach/>

***epi*TRENDS Monthly Posting Alert**

To receive monthly e-mail notification of *epi*TRENDS, please register at this website:

[http://
listserv.wa.gov/
archives/
epitrends.html](http://listserv.wa.gov/archives/epitrends.html)

Choose the option to join the listserve. Enter your name and email address.

Continued page 3

Changes in Pertussis Testing

In mid October all laboratories that use the Washington State Public Health Laboratories (WA PHL) as their reference laboratory for pertussis testing were notified that WA PHL is discontinuing DFA. Now in place of kits for DFA and culture, submitters will receive kits for PCR and culture. PCR will be used as the regular screening test on all specimens submitted for culture, in the same way that DFA has been used in the past. (Testing for King County residents is to be done at Public Health – Seattle & King County laboratory.)

In situations that meet the epidemiology or surveillance criteria for PCR testing, PCR alone without culture can be requested by health care providers via their local health jurisdiction.

Criteria are based on public health significance:

1. Ill person is a health care worker.
2. Ill person was in a health care environment while contagious (e.g.--an ill mom that was coughing at delivery).
3. Ill person has been in a situation while contagious where there are public health concerns due to a potential for a large number of persons or high risk persons to be exposed (e.g.--an ill person who works in the infant room in a daycare).

The health jurisdiction should make arrangements through WA Department of Health Communicable Disease Epidemiology to request PCR.